

### Claims

1. A backlight apparatus having at least an optical unit,  
the optical unit comprising:
- 5 a first light source for emitting a first primary color  
light;  
a second light source for emitting a second primary color  
light;  
a third light source for emitting a third primary color  
10 light;  
a first mirror surface body for reflecting the first  
primary color light and/or transmitting other primary color  
light;  
a second mirror surface body for reflecting the second  
15 primary color light and/or transmitting other primary color  
light;  
a third mirror surface body for reflecting the third  
primary color light and/or transmitting other primary color  
light; and  
20 color mixing means that mixes each of the color light  
transmitted through the first, second and third mirror surface  
bodies and emits white light.
2. A backlight apparatus having at least an optical unit,  
25 the optical unit comprising:
- a first light source for emitting a first primary color  
light;  
a second light source for emitting a second primary color  
light;  
30 a third light source for emitting a third primary color  
light; and

a cross dichroic device having a first dichroic film for reflecting the first primary color light and transmitting the second primary color light and a second dichroic film for reflecting the third primary color light and transmitting the second primary color light, in an X-shape, for emitting white light by mixing the first, second and third primary color light.

3. A backlight apparatus having at least an optical unit, the optical unit, comprising:
- 10 a light source for emitting white light;  
a first mirror surface body for transmitting a first polarized wave and reflecting a second polarized wave;  
a second mirror surface body for transmitting the second polarized wave reflected by the first mirror surface body;  
15 and  
a polarization converting device for converting the second polarized wave reflected by the second mirror surface body into the first polarized wave;  
wherein a polarized wave to be emitted is emitted aligned  
20 with the first polarized wave.

4. The backlight apparatus according to claim 3, characterized in that:

the light source is white light obtained by mixing each  
25 of primary color light emitted from a first light source for emitting a first primary color light, a second light source for emitting a second primary color light, and a third light source for emitting a third primary color light.

- 30 5. A liquid crystal display apparatus, characterized by comprising:

a backlight apparatus having at least an optical unit,  
the optical unit having

a first light source for emitting a first primary  
color light,

5 a second light source for emitting a second primary  
color light,

a third light source for emitting a third primary  
color light,

a first mirror surface body for reflecting the  
10 first primary color light and/or transmitting other primary  
color light,

a second mirror surface body for reflecting the  
second primary color light and/or transmitting other primary  
color light;

15 a third mirror surface body for reflecting the  
third primary color light and/or transmitting other primary  
color light, and

color mixing means that mixes each of the color  
light transmitted through the first, second, third mirror  
20 surface bodies and emits white light; and

a liquid crystal display panel for displaying an image  
by using light surface-emitted from the backlight apparatus.

6. A liquid crystal display apparatus, characterized by  
25 comprising:

a backlight apparatus having at least an optical unit,  
the optical unit having

a first light source for emitting a first primary  
color light,

30 a second light source for emitting a second primary  
color light,

a third light source for emitting a third primary color light, and

a cross dichroic device having a first dichroic film for reflecting the first primary color light and  
5 transmitting the second primary color light and a second dichroic film for reflecting the third primary color light and transmitting the second primary color light, in an X-shape, for emitting white light by mixing the first, second and third primary color light; and

10 a liquid crystal display panel for displaying an image by using light surface-emitted from the backlight apparatus.

7. A liquid crystal display apparatus, characterized by comprising:

15 a backlight apparatus having at least an optical unit, the optical unit having

a light source for emitting white light,

a first mirror surface body for transmitting a first polarized wave and reflecting a second polarized wave,

20 a second mirror surface body for reflecting the second polarized wave reflected by the first mirror surface body, and

a polarization converting device for converting the second polarized wave reflected by the second mirror surface body into the first polarized wave,  
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wherein a polarized wave to be emitted is emitted aligned with the first polarized wave; and

a liquid crystal display panel for displaying an image by using light surface-emitted from the backlight apparatus.

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